FOS100 DYNAMIC

User's Manual Rel 1.2 **GB**

D.T.S. Illuminazione srl - ITALY
http://www.dts-lighting.it

The Lighting Company

Made in Italy

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DESCRIPTION

FOS 100 DINAMIC is a new compact LED bar with power supply on board, designed for colouring large surfaces with a uniform projection, either indoor and outdoor. FOS 100 DINAMIC can be used for many applications, such as: • professional, for an ample range of special events; • theatre and television, for uniform background colours and cycloramas; • architectural, for lighting building facades, public and commercial spaces, monuments, etc.
All models are made on aluminium and steel offering high resistance to mechanical stress.
Protection rating can be IP65 (outdoor) or IP20 (indoor).
FOS 100 DINAMIC light source is composed of 15 x 3W Full Colour LEDs which can independently generate 16 million colours.
Luminosity is 550 Lux at 3 m (spot lenses); colour temperature can be controlled linearly from 3200°K to 5500°K.
The 15 Full Colour LEDs can generate the same colour at the same time (so that the illuminated object is not only uniformly lit, but also projects no false shadows) and different colours at the same time (indipended control for each Full Colour LED in 45 channels MODE) in order to create an infinity combination of colours.
Three dedicated lenses sets (Spot, Medium flood, Wide floodl) are available for each model, offering different light beam projection angles.
Set-up and connection of the units is fast and easy, thanks to the dedicated on board power supply.
FOS 100 DINAMIC can be controlled via any DMX lighting console.

FOS 100 DINAMIC IP65 (Spot) (Cod. 03.DYN001S.F10)
15 x 3W Full colour LEDs • Spot lenses • Length 100 cm
FOS 100 DINAMIC IP65 (Medium) (Cod. 03.DYN001S.F25)
15 x 3W Full colour LEDs • Medium lenses • Length 100 cm
FOS 100 DINAMIC IP65 (Wide) (Cod. 03.DYN001S.F40)
15 x 3W Full colour LEDs • Wide lenses • Length 100 cm

FOS 100 DINAMIC IP20 (Spot) (Cod. 03.DYN002S.F10)
15 x 3W Full colour LEDs • Spot lenses • Length 100 cm
FOS 100 DINAMIC IP20 (Medium) (Cod. 03.DYN002S.F25)
15 x 3W Full colour LEDs • Medium lenses • Length 100 cm
FOS 100 DINAMIC IP20 (Wide) (Cod. 03.DYN002S.F40)
15 x 3W Full colour LEDs • Wide lenses • Length 100 cm

All models are also available in white colour.

LED technology
15 x 3W Full colour LEDs (P5 II)
16 million colours; linear colour temperature 3200°K :÷ 5500°K; 16 selectable types of White
No infrared emission; no ultraviolet emission
LEDs average lifespan: 100.000 hours
Optical units
3 lenses sets available (Spot, Medium flood, Wide flood)
Control
Via any DMX lighting console
Protection
IP20 or IP65 protection level against the penetration of solids and liquids
Construction
FOS 100 DINAMIC is made on aluminium and steel
Power supply
Integrated power supply / LED controller

MAIN ELECTRICAL CHARACTERISTICS:

Input Voltage Range : Vin 90 - 260 Vac
Frequency : 50 - 60 HZ
Power Consumption Range : 6 - 75 W
Power Factor (Pf) : 0.95 electronic PFC controller
Efficiency : 90% typical

Output:
Power Output Range : 45 channels output (15 X R/G/B) 1,5 W per channel
Output Current : 350 mA @ 100% per channel (500mA @ 100% per channel in BOOST Mode)
Output Voltage : Vout 24V

Control Input:
Control Signal : DMX 512
Dimming System :Constant Current PWM
Address Range : DMX 512 channels addressable by display

ACCESSORIES

- Lenses set Spot available for each model
- Lenses set Medium flood available for each model
- Lenses set Wide flood available for each model

IMPORTANT SAFETY INFORMATION

Fire prevention:

Never locate the fixture on any flammable surface.
Minimum distance from flammable materials: 10 cm
Replace any blown or damaged fuses only with those of identical value

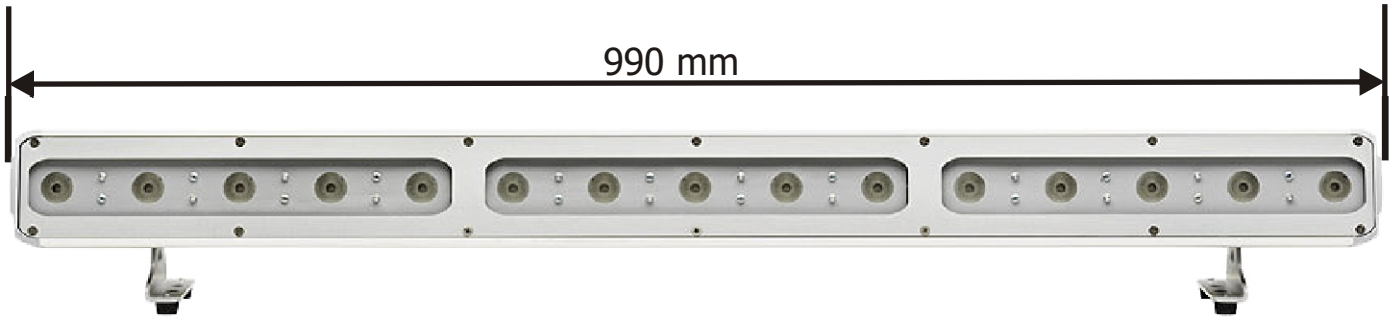
Prevention from electric shock:

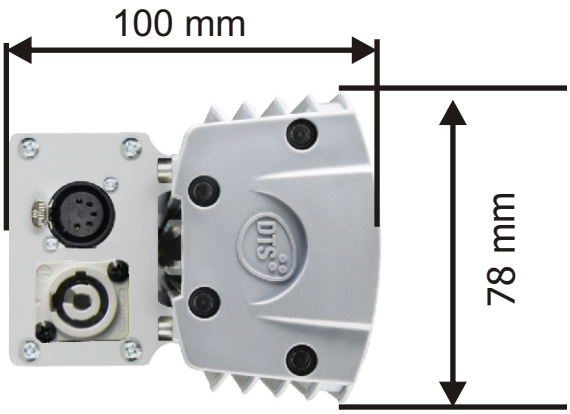
High voltage is present inside the unit.
Unplug the unit prior to performing any operation which involves touching the inside of the unit.
This equipment must be grounded, do not connect to non-grounded supplies.
The use of a thermal magnetic circuit breaker is recommended for each FOS 100 DINAMIC unit.
Use only AC supplies 90-260V, 50-60Hz
The unit should never be located in position exposed to rain or in areas of extreme humidity.
A good air ventilation is essential for proper equipment work.

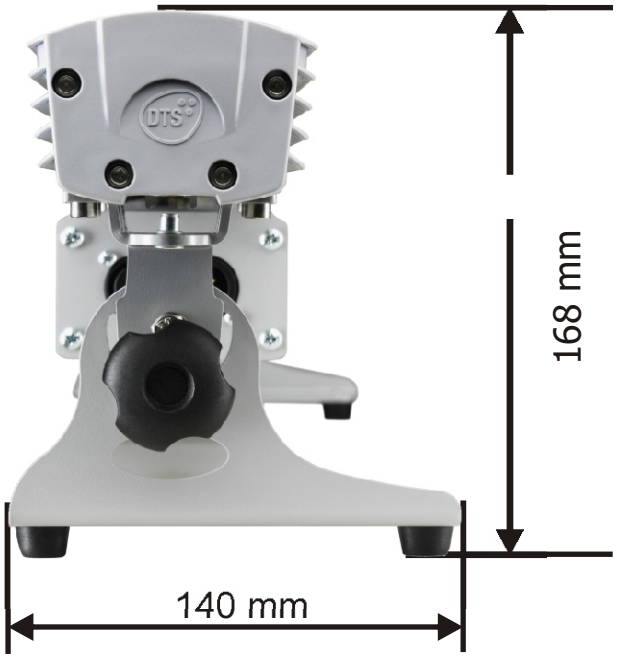
Safety:

The external surface of the unit may exeed 50°C; never handle the unit until at least 5 minutes have elapsed since the unit was turned off.
Never install the unit in an enclosed area lacking sufficient air flow.
The ambient temperature should not exeed 40°C and should not be lower than -10°C

UNIT DIMENSIONS:





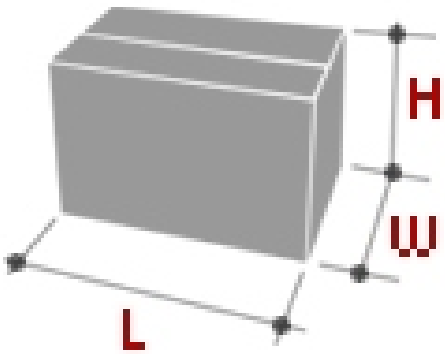


Unit Dimensions
(LxWxH)
990 x 100 x 78 mm

Weight
6,5 Kg

Packing Dimensions
(LxWxH)
1060 x 160 x 200 mm

Weight
7,5 Kg

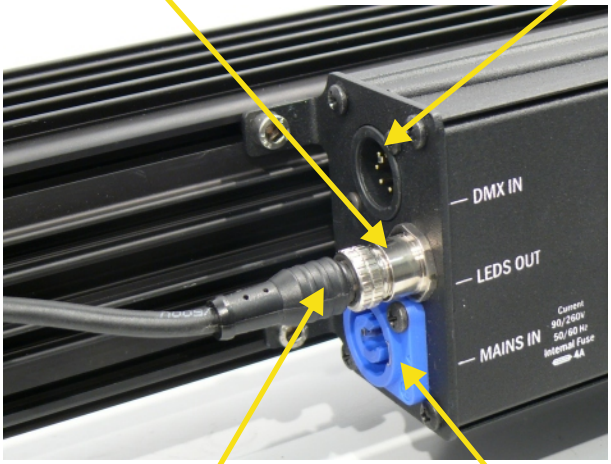


INPUT/OUTPUT CONNECTIONS

FOS 100 DYNAMIC IP20

M12 LED output
Female panel connector

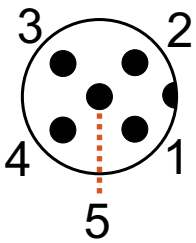
DMX IN/OUT
XLR 5 pins Male / Female
Panel Connectors



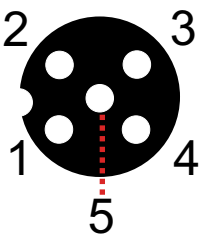
Mains 90-260 V AC
50-60 Hz input Powercon
Female panel connector

Mains 90-260 V AC
50-60 Hz output Powercon
Female panel connector
MAX load:
230 V AC = 20 FOS 100 DYNAMIC
100 V AC = 10 FOS 100 DYNAMIC

M12 - 5 PINS LED input
Male cable connector



M12 - 5 PINS LED output
Female panel connector



LEDS
CONNECTOR PINOUT

1 - DMX DATA -
2 - GROUND
3 - DMX DATA+
4 - 24V DC
5 - HEARTH

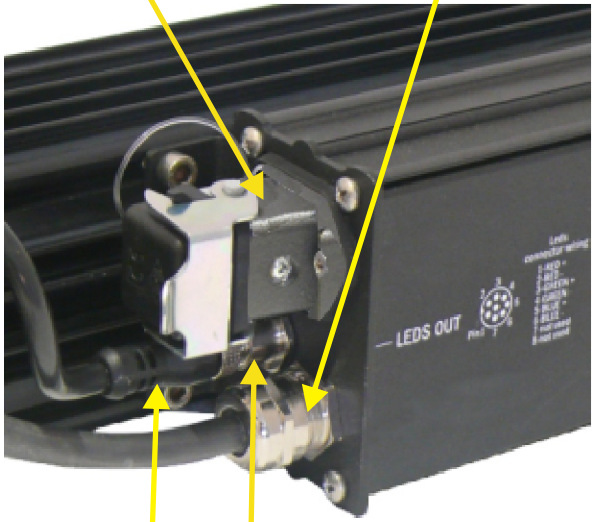
INPUT/OUTPUT CONNECTIONS

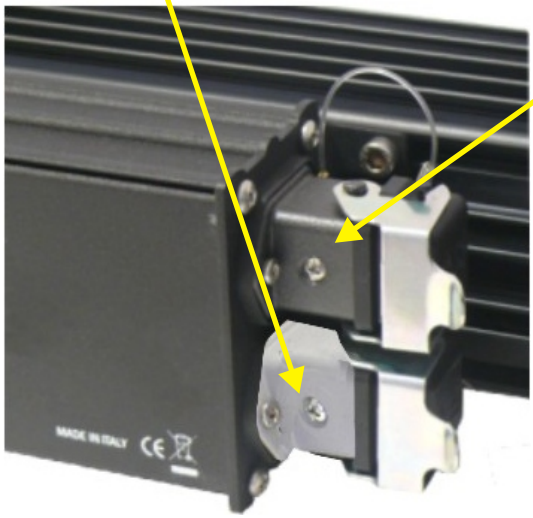
FOS 100 DYNAMIC IP65

Mains 90-260 V Ac
50-60 Hz input cable

Mains 90-260 V Ac
50-60 Hz output ILME 5 pins
Female panel connector
MAX load:
230 V Ac = 20 FOS 100 DYNAMIC
100 V Ac = 10 FOS 100 DYNAMIC

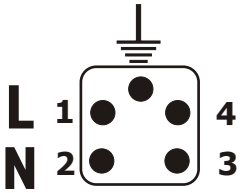
DMX IN/OUT
ILME 4 pins Female
Panel Connectors



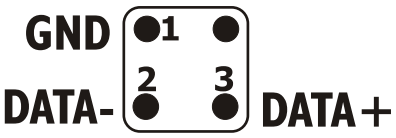


DMX IN/OUT
ILME 4 pins Female
Panel Connectors

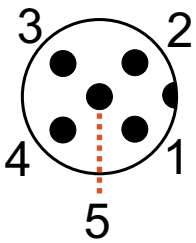
MAINS OUTPUT
FEMALE PANEL CONNECTOR



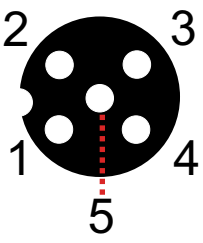
DMX IN-OUT
FEMALE PANEL CONNECTOR



M12 - 5 PINS LED input
Male cable connector



M12 - 5 PINS LED output
Female panel connector



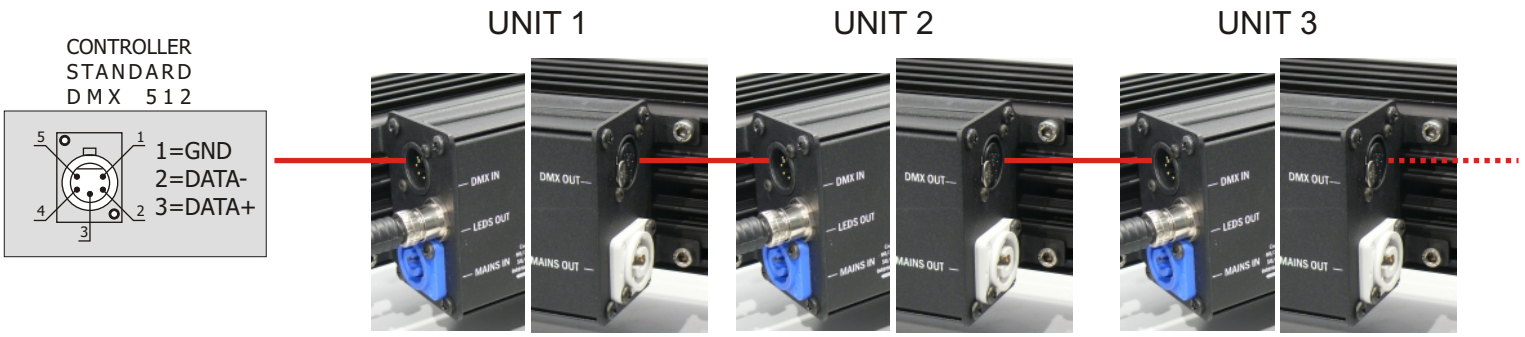
LEDS
CONNECTOR PINOUT

1 - DMX DATA -
2 - GROUND
3 - DMX DATA+
4 - 24V DC
5 - HEARTH

DMX SIGNAL CONNECTION:

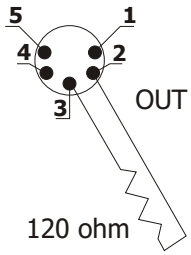
FOS 100 DYNAMIC IP20

The unit operates using a digital DMX 512 signal. Connection between the controller and the unit or between units must be carried out using a two pair screened ø 0.5 mm.
Ensure that the conductors do not touch each other. Do not connect the cable ground to the DMX connector chassis. The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first unit to the DMX IN plug of the second one.
In this way, all the projectors are cascade connected.

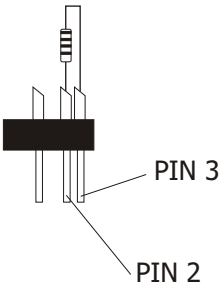


P.S:
If the display showing the DMX address flashes, then one of the following errors has occurred:
- DMX signal not present
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor Between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE

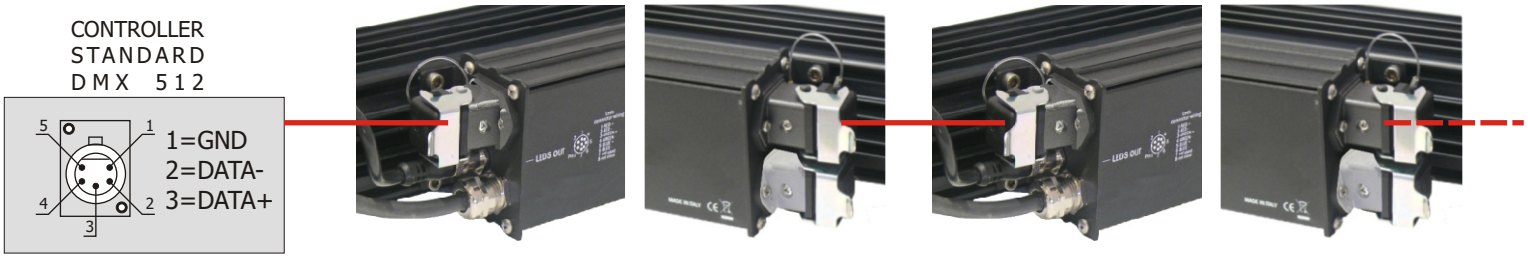


The standard configuration of the FOS 100 DYNAMIC is with XLR 5 pins connectors.

DMX SIGNAL CONNECTION:

FOS 100 DYNAMIC IP65

The unit operates using a digital DMX 512 signal. Connection between the controller and the unit or between units must be carried out using a two pair screened ø 0.5 mm.
Ensure that the conductors do not touch each other. Do not connect the cable ground to the DMX connector chassis. The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first unit to the DMX IN plug of the second one.
In this way, all the projectors are cascade connected.



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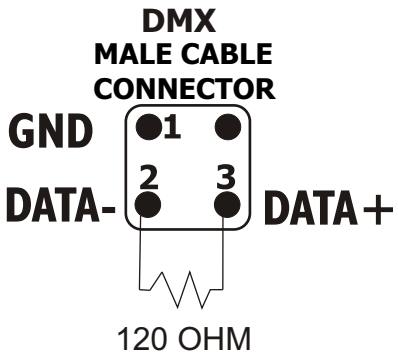
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male DMX cable connector with a 120 ohm resistor Between pin 2 and 3.
The DMX terminator must be plugged into the DMX out panel connector of the last unit connected to the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE DMX CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE

DMX ADDRESS

FOS 100 DYNAMIC can be used in 5 different modes: 3 DMX channels, 9 DMX channels, 11 DMX channels, 13 DMX channels (RGBE) or 45 DMX channels (default).

If you want to use the FOS 100 DYNAMIC in 3 channels mode, select the 3 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001

Projector 2 A004 If you want to select the next projector, just add "3"

Projector 3 A007

….. A….

projector 6 A016

If you want to use the FOS 100 DYNAMIC in 9 channels mode, select the 9 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001

Projector 2 A010 If you want to select the next projector, just add "9"

Projector 3 A019

….. A….

projector 6 A046

If you want to use the FOS 100 DYNAMIC in 45 channels mode, select the 45 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001

Projector 2 A046 If you want to select the next projector, just add "45"

Projector 3 A091

….. A….

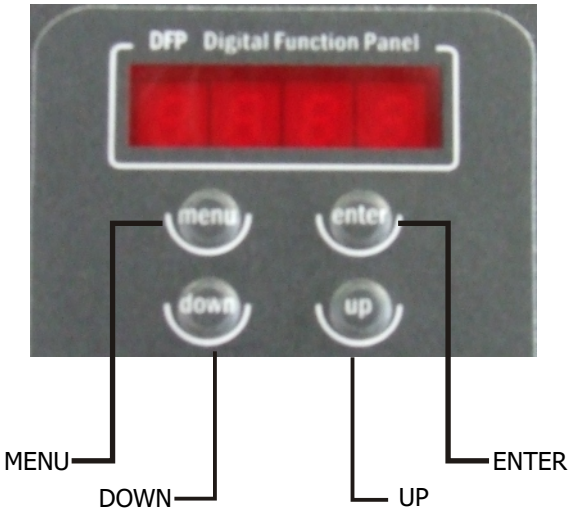
projector 6 A226

Selelcting the DMX address

1) Press the UP-DOWN key until you reach the required DMX address. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new DMX address.

TIPS: if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

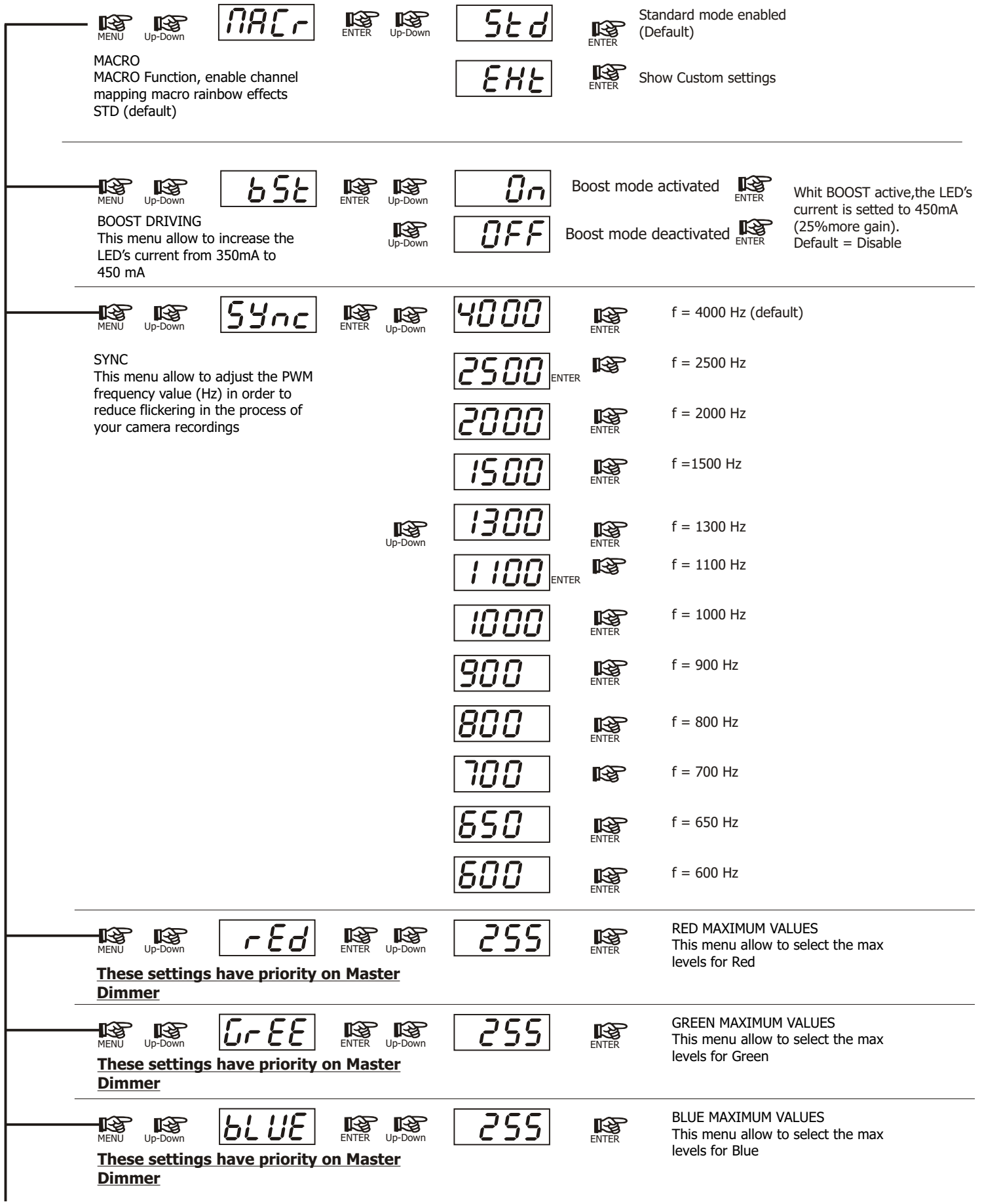
The FOS 100 DYNAMIC display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 signal used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

Software version 1.10

A001 — MENU ☞ — Up-Down ☞ — nodE — ENTER ☞ — Up-Down ☞

DMX MODE
To select DMX mode : 3, 13, 9, 11 or 45
DMX channels (default)

	3cH	3 CHANNELS	ENTER ☞	CH1 = RED, CH2 = GREEN CH3 = BLUE
Up-Down ☞	9cH	9 CHANNELS	ENTER ☞	CH1 = SHUTTER, CH2 = DIMMER, CH3 = RED, CH4 = GREEN,CH5 = BLUE, CH 6 = WHITE, CH7 = CTC, CH8 = MACRO, CH9 = CUSTOM WHITE
Up-Down ☞	rGbE	13 CHANNELS	ENTER ☞	CH1 = SHUTTER, CH2 = DIMMER, CH3 = RED, CH4 = GREEN, CH5 = BLUE, C6 = EFFECT1, CH7 = COLOUR1, CH8 = PARAM1, CH9 = LEVEL1, CH10 = FUNCTION2 Ch11 = EFFECT2, CH12 = PARAM2, CH13 = LEVEL2
Up-Down ☞	11cH	11 CHANNELS	ENTER ☞	CH1 = SHUTTER CH2 = DIMMER CH3 = RED BLOCK 1 CH4 = GREEN BLOCK 1 CH5 = BLUE BLOCK 1 CH6 = RED BLOCK 2 CH7 = GREEN BLOCK 2 CH8 = BLUE BLOCK 2 CH9 = RED BLOCK 3 CH10 = GREEN BLOCK 3 CH11 = BLUE BLOCK 3
Up-Down ☞	45cH	45 CHANNELS	ENTER ☞	Default DMX Mode = 45 CH

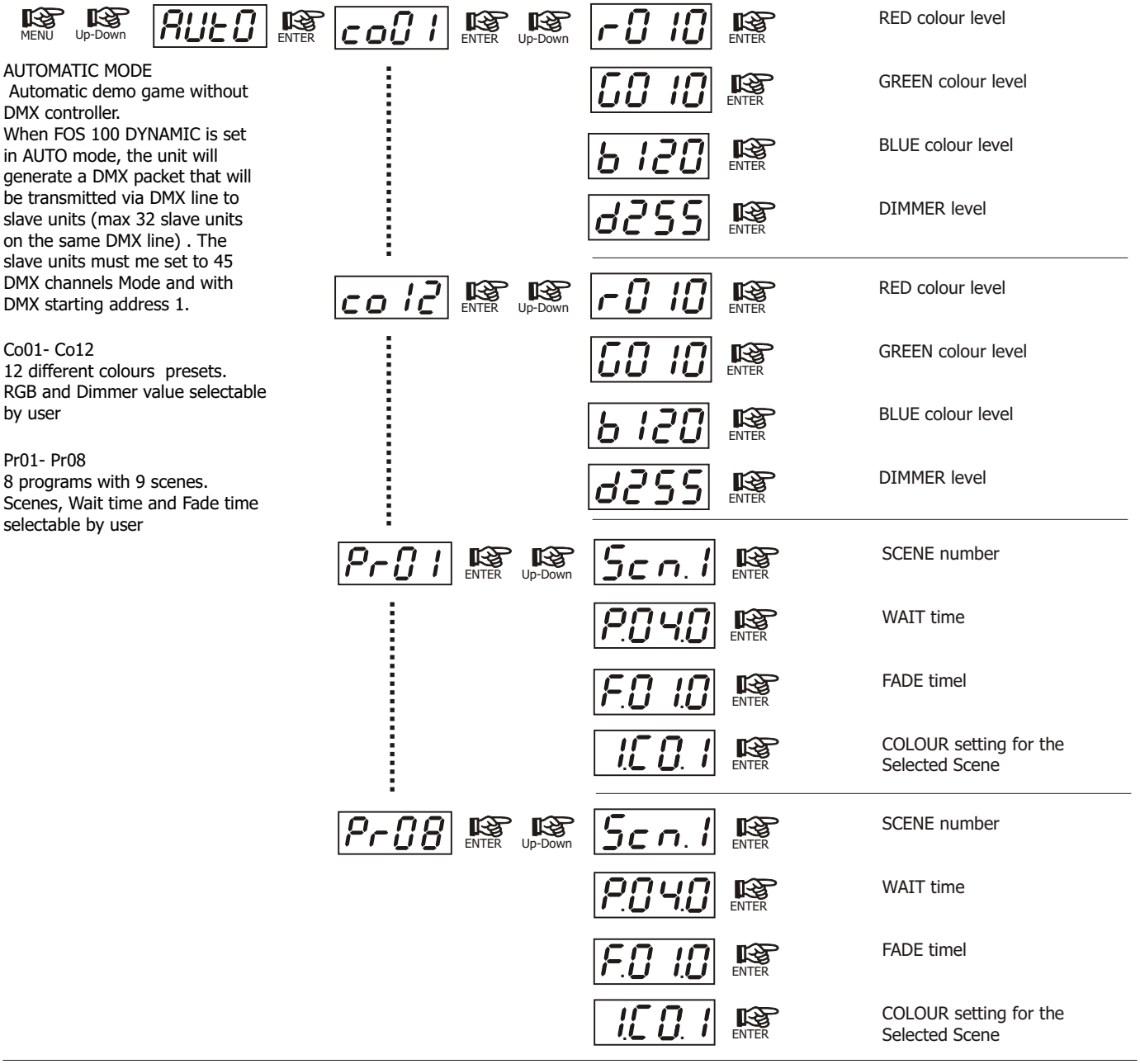

MENU
Up-Down
MACr
ENTER
Up-Down
Std
ENTER
Standard mode enabled (Default)
EHt
ENTER
Show Custom settings
MACRO
MACRO Function, enable channel mapping macro rainbow effects
STD (default)
MENU
Up-Down
bSt
ENTER
Up-Down
On
Boost mode activated
ENTER
Whit BOOST active,the LED's current is setted to 450mA (25%more gain).
Default = Disable
Up-Down
OFF
Boost mode deactivated
ENTER
BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 450 mA
MENU
Up-Down
SYnc
ENTER
Up-Down
4000
ENTER
f = 4000 Hz (default)
2500
ENTER
f = 2500 Hz
2000
ENTER
f = 2000 Hz
1500
ENTER
f =1500 Hz
Up-Down
1300
ENTER
f = 1300 Hz
1100
ENTER
f = 1100 Hz
1000
ENTER
f = 1000 Hz
900
ENTER
f = 900 Hz
800
ENTER
f = 800 Hz
700
f = 700 Hz
650
ENTER
f = 650 Hz
600
ENTER
f = 600 Hz
SYNC
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings
MENU
Up-Down
rEd
ENTER
Up-Down
255
ENTER
RED MAXIMUM VALUES
This menu allow to select the max levels for Red
These settings have priority on Master Dimmer
MENU
Up-Down
GrEE
ENTER
Up-Down
255
ENTER
GREEN MAXIMUM VALUES
This menu allow to select the max levels for Green
These settings have priority on Master Dimmer
MENU
Up-Down
bLUE
ENTER
Up-Down
255
ENTER
BLUE MAXIMUM VALUES
This menu allow to select the max levels for Blue
These settings have priority on Master Dimmer

Range = OFF - ON
Default = OFF

SMOOTH VALUE
This menu allow to select the value of the delay(in millisecons) for RGB and Dimmer channels reaction to DMX or Program variation.
OFF=25 ms delay (Fast response)
ON=250 ms delay (Slow response)

OFF = 25 ms
Istant responce to DMX variation

ON = 250 ms
Smooth response to DMX variation



AUTOMATIC MODE
Automatic demo game without DMX controller.
When FOS 100 DYNAMIC is set in AUTO mode, the unit will generate a DMX packet that will be transmitted via DMX line to slave units (max 32 slave units on the same DMX line) . The slave units must me set to 45 DMX channels Mode and with DMX starting address 1.

Co01- Co12
12 different colours presets.
RGB and Dimmer value selectable by user

Pr01- Pr08
8 programs with 9 scenes.
Scenes, Wait time and Fade time selectable by user

DEFAULT
To restore default settings

SOFTWARE
Software version

TEMPERATURE
Unit temperature

MAXIMUM TEMPERATURE
Max temperature measured by internal
Thermal sensor

TEMPERATURE MEASURE UNIT
Celsius / Fahrenheit

UNIT SERIAL NUMBER

RESERVED MENU

DMX PROTOCOL

3 CHANNELS MODE

1 RED
2 GREEN
3 BLUE

DMX CHANNEL	**1**	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**2**	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**3**	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX PROTOCOL

45 CHANNELS MODE (Default)

1 RED1
2 GREEN1
3 BLUE1
4 RED2
5 GREEN2
6 BLUE2

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43 RED15
44 GREEN15
45 BLUE15

DMX CHANNEL	**1**	Parameter: **RED1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**2**	Parameter: **GREEN1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**3**	Parameter: **BLUE1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **RED2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **GREEN2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **BLUE2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

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DMX CHANNEL	43	Parameter: **RED15**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	44	Parameter: **GREEN15**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	453	Parameter: **BLUE15**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX PROTOCOL

13 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 EFFECT 1
7 COLOUR 1
8 PARAM 1
9 LEVEL1
10 EFFECT 2
11 COLOUR 2
12 PARAM 2
13 LEVEL 2

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX PROTOCOL

9 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 WHITE (Pre-programmed whites at different color temperatures)
7 CTC
8 COLOURS MACRO
9 FUNCTIONS

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **EFFECT 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000 - 047	**023**				**NO EFFECT**
048 - 063	**056**				**Background**
064 - 079	**070**				**Hystogram Left**
080 - 095	**087**				**Hystogram Right**
096 - 111	**104**				**Hystogram Multicolor Left**
112 - 127	**120**				**Hystogram Multicolor Right**
128 - 143	**136**				**Continous Shift Right**
144 - 159	**152**				**Continous Shift Left**
160 - 175	**168**				**Wave Right**
176 - 191	**184**				**Wave Left**
192 - 207	**200**				**Random Strobo**
208 - 223	**215**				**Random Strobo Random Colour**
224 - 239	**232**				**Pulse**
240 - 255	**247**				**Random Pick**

DMX CHANNEL	7	Parameter: **COLOUR 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Colour Selection**

DMX CHANNEL	8	Parameter: **PARAM 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Effect 1 Parameter**

DMX CHANNEL	9	Parameter: **LEVEL 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional Dimmer Effect 1**

DMX CHANNEL	10	Parameter: **EFFECT 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000 - 047	**023**				**NO EFFECT**
048 - 063	**056**				**Background**
064 - 079	**070**				**Hystogram Left**
080 - 095	**087**				**Hystogram Right**
096 - 111	**104**				**Hystogram Multicolor Left**
112 - 127	**120**				**Hystogram Multicolor Right**
128 - 143	**136**				**Continous Shift Right**
144 - 159	**152**				**Continous Shift Left**
160 - 175	**168**				**Wave Right**
176 - 191	**184**				**Wave Left**
192 - 207	**200**				**Random Strobo**
208 - 223	**215**				**Random Strobo Random Colour**
224 - 239	**232**				**Pulse**
240 - 255	**247**				**Random Pick**

DMX CHANNEL	11	Parameter: **COLOUR 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Colour Selection**

DMX CHANNEL	12	Parameter: **PARAM 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Effect 1 Parameter**

DMX CHANNEL	13	Parameter: **LEVEL 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional Dimmer Effect 2**

DMX CHANNEL	8	Parameter: **COLOUR MACROS**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	9	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 6 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 6 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

DMX PROTOCOL

11 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 RED1
4 GREEN1
5 BLUE1
6 RED2
7 GREEN2
8 BLUE2
9 RED3
10 GREEN3
11 BLUE3

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **RED2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **GREEN2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	8	Parameter: **BLUE2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	9	Parameter: **RED3**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	10	Parameter: **GREEN3**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	11	Parameter: **BLUE3**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

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